REMARKS

Claims 1-32 were examined. Applicant has amended claims 1, 13, and 25 Claims 3 and 15 have been cancelled. No new matter has been introduced.

Rejections under 35 USC §102

Claims 1-32 stand rejected under §102(b) as anticipated by Sandhu et al. (US 6,432,389).

The prior art

Sandhu discloses "a wireless communication system having, among other components, a beam former for receiving signals from a number of antennas. The beam former combines received antenna signals to form N beams. The N beams are distinct, which in the present specification means that the beams have different angular sensitivities (sensitivity as a function of angle) and/or different spatial location. The system has at least two beam selector switches. Each beam selector switch selects exactly one of the N beam signals. Each of the beam selector switches selects a different beam signal" (col. 3, lines 41-51). "FIG. 1 shows a schematic diagram of a preferred embodiment of the present invention. The device has M antennas 20 labeled 1, 2, 3, 4, ... , M. The number of antennas can be 3 or more. It is noted that the M antennas can be single omnidirectional antennas, single sectored antennas, or 55 arrays of multiple omnidirectional or sectored antennas. The antennas 20 feed into a beam former 22 that has N output beam signals 24. Each of the N beam signals corresponds to a distinct beam 52. The beam former 22 includes signal processing electronics which selects and combines signals 60 from the M antennas to produce the N beam signals 24. The N beam signals 24 are received by 2 beam selector switches 26, 28, and a quality measurement (QM) switch 30. Each switch 26, 28, 30 selectably outputs exactly one of the N beam signals" (col. 4, lines 50-64, FIG. 1). Thus, Sandhu discloses a wireless communication system having M antennas that feed into a beam former having N output beam signals, and 2 beam selectors that receive the N beam

signals and output exactly one of them.

Sandhu further discloses that "The N distinct beams preferably comprise a single omni-directional beam and N-1 directional beams. Preferably, the number of beam selector switches and RF chains is 2, 3, or 4" (col. 3, lines 64-67). "FIG. 5 shows an embodiment where the three highest quality beam signals are selected. In this embodiment, a third beam selector switch 62 is added for selecting the third best beam signal. Also, a third RF chain 64 is included and the combiner 40 receives three signals from the RF chains 36, 38, 64. The operation of the device 55 is otherwise the same as the operation of the device of FIG. 1, except that three best beam signals are selected, instead of only the two best beam signals" (col. 7, lines 50-58). "It is noted that even more beam selector switches (e.g., for a total of 4, 5 or more) can be added for further improvements in device performance. However, each additional beam selector switch and associated RF chain provides 65 diminishing benefits and increased system cost. The optimal number of beams (N) and the number of selector switches (K) can be experimentally determined for a given cellular network. For most wireless communication applications, systems that select the best 2-3 beam signals provide the best value" (col. 7, line 62 – col. 8, line 4). As such, the only functioning component which number can be adjusted in the wireless communication system disclosed by Sandhu is the selector switch, while all other functioning components of the system such as the antennas, cannot be changed. Furthermore, all physical components in the system function (are turned on) if they are included as part of the wireless communication system. There is no teaching or disclosure in Sandhu of turning on only a subset of the physical components that are present in the system (for a non-limiting example, there is no teaching in Sandhu of allowing only 1 or 2 out of the 3 selector switches to function while turning off the rest). The ability to adaptively and selectively turning on and off only a subset of components in the wireless communication system based on desired functionality (vs. physically including or excluding such components from the system) is important since it enables the same reference design be adapted to achieve various applications and desired functionalities without physically changing the configuration of the system by adding or removing components in or out of the system.

<u>The prior art distinguished</u>

Independent claim 1 has been amended to include the language of:

selecting a desired functionality of said wireless communication system;

<u>determining a reference design having a maximum number of antennas of a transmitter or receiver, a maximum number of RF chains at a transmitter or receiver, maximum power consumption and processing techniques for implementing maximum functionality and said reference design is adapted to support said desired functionality;</u> and

adapting ~~said wireless communication system~~ <u>the reference design</u> to support said desired functionality at an optimized economic benefit <u>by turning on or off each of the antennas and the RF chains at the transmitter or receiver in the reference design</u>.

Independent claims 13 and 25 have been similarly amended.

As discussed above, Sandhu does not disclose a reference design having a maximum number of antennas and RF chains, which can be adaptively turned on or off to support desired functionalities. Thus, Sadnhu cannot anticipate independent claims 1, 13, and 25. Since the rest of the claims depend on these claims, they are also allowable at least for depending from an allowable base claim. The Applicant respectfully requests all rejections with respect to these claims be withdrawn.

CONCLUSION

A petition to revive the application is filed together with the response.

Applicant believes that the application is now in condition for allowance and respectfully requests the same.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. **50-4634**, referencing Attorney's Docket No. **RDA-0002US.**

Respectfully submitted,

Date: October 28, 2011

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